
**CHEMFAB® RELEASE SOLUTIONS FOR...**

- Single Sided FPCB
- Double Sided FPCB
- Multi-layer FPCB
- Build Up FPCB

# ROLLS AND SHEETS FOR FPCB COVERLAY LAMINATION

## RELEASE SOLUTIONS FOR ELECTRONIC COMPONENTS

In today's electronics market, the requirement for thinner, lighter, faster and more power efficient electronics is impacting all industries. Flexible printed circuit boards (FPCB) are a leading core component choice because of their design flexibility and size.

Building FPCB is a complex multi-step process. Each critical step carries a risk of defect. The coverlay lamination process fully encapsulates the delicate structure of FPCB, giving protection and insulation.

CHEMFAB® Release Fabrics play a critical role in this process, helping to reduce defect rates thereby increasing production yield for all types of vacuum, quick sheet and roll to roll lamination processes.

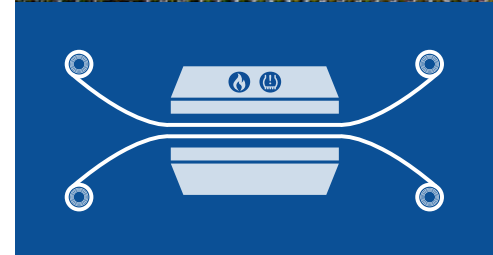
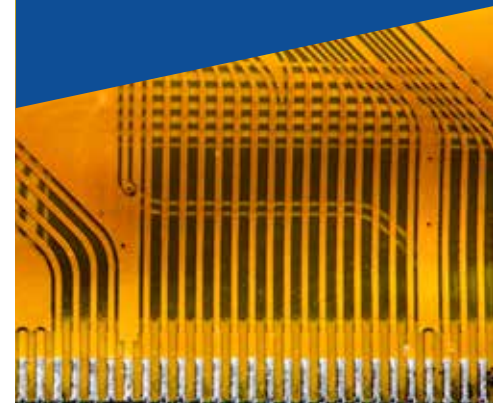
For all flex circuit types, CHEMFAB® productivity aids are an effective barrier layer in blocking contaminants, as well as providing a release layer, which ensures clean and easy separation of all types of protective release film from the defect free FPCB after compression.

### WITH OUR PRODUCTS YOU CAN ACHIEVE:

**1** LOWER DEFECT RATE

**2** CONSISTENT BATCH PROCESSING

**3** LONGER PRODUCTION RUNS



- ✓ Compatible with all lamination machines
- ✓ Roll to roll or sheet format
- ✓ Uniform heat transfer
- ✓ Excellent non-stick PTFE surface
- ✓ Thermally stable up to 260°C
- ✓ Resistant to molten adhesives
- ✓ Dimensionally stable under pressure
- ✓ Defect free surface

- ✓ Durable release over multiple uses
- ✓ No fraying on the edges
- ✓ No premature tearing
- ✓ Easy to operate & maintain
- ✓ Simple installation
- ✓ Available in long length rolls

## FEATURES



## OUTCOMES

- ✓ Perfectly laminated and encapsulated FPCB
- ✓ Surface defect control in FPCB lamination
- ✓ Long lasting meaning less downtime
- ✓ High quality finish of FPCB

- ✓ Reliable performance - No sudden breakages/tears
- ✓ Long lifetime with consistent release properties
- ✓ Consistent surface - No protrusions
- ✓ Consistent batch-to-batch quality
- ✓ Risk of unplanned maintenance minimized

Minimizing defects in high speed FPCB manufacturing, particularly in the coverlay lamination process is very challenging. CHEMFAB® high performance PTFE coated fabrics provide essential protection for the very delicate FPCB. During lamination, the protective outer layers of polyimide and other coverlay films are bonded onto one or both sides of the fragile FPCB at high temperatures of up to 260°C.

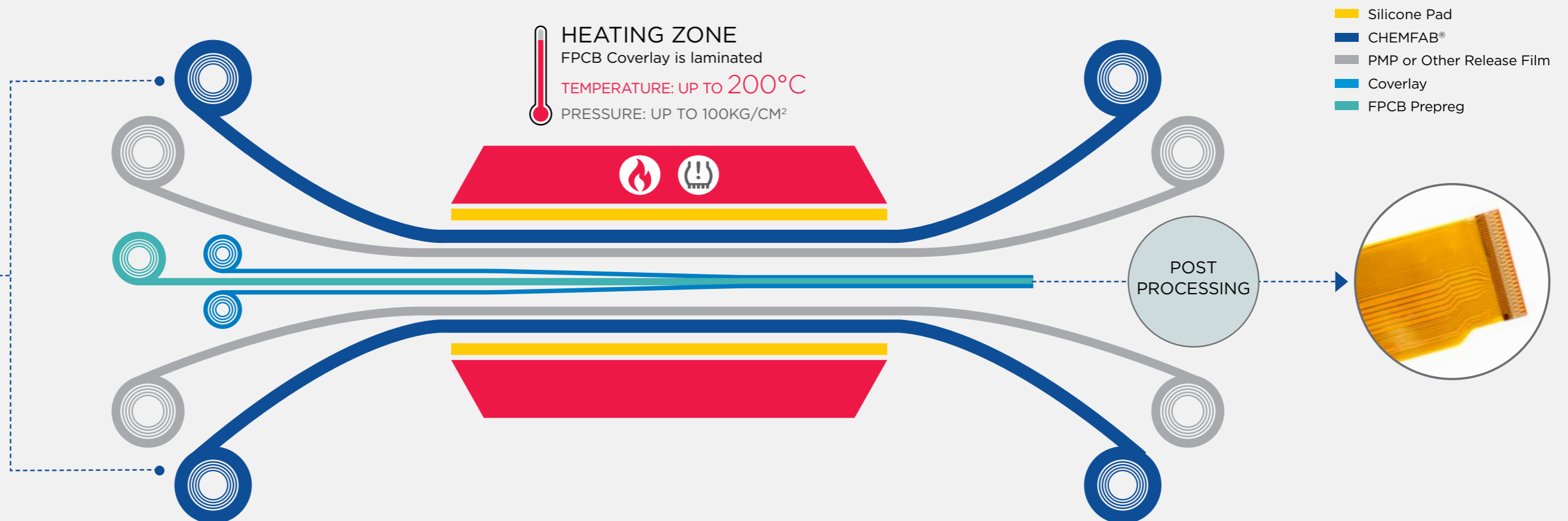
The dimensionally stable and strong CHEMFAB® rolls are tensioned, enabling the “throwaway” single use PMP or other release film to be easily pulled into the laminator, reducing the risk of creasing which can result in defective FPCBs.

In this aggressive and sticky lamination process, molten adhesives, high temperature and pressure can cause the release of contaminants. The PMP or other release films supported by the CHEMFAB® PTFE coated fabrics provides an effective barrier layer by blocking any grease and oils coming from the silicone cushioning pads.

Defect rate improvements are made possible with CHEMFAB® release solutions due to their spot free surface. This super smooth, non-stick and defect free PTFE surface prevents the build-up of any hard sticking points from molten polymers, which can frequently occur after long term repetitive cycles. CHEMFAB® release solutions after repetitive use continue to offer excellent and consistent release.

The key to a longer lifetime is attributed to both consistent mechanical properties and surface release properties over time. The high mechanical strength combined with the good wear-resistant PTFE-coatings of CHEMFAB® release belts enables long lifetimes and multiple usages. This means continuous production with consistent batch-to-batch quality, reducing the machine downtime and maximizing the cost/performance ratio.

## CHEMFAB® PTFE RELEASE SOLUTION



# WHAT CAN BE MADE USING CHEMFAB® PRODUCTS?

All types of flex and layered FPCB for many industries:

- Medical Instrumentations
- Computers & Data Storage
- Telecommunications
- Automotive
- Defence & Aerospace
- Consumer Electronics
- Industrial Electronics



## CHEMFAB® PRODUCTS OF CHOICE

SR010-2 X	Super smooth, longest lasting release
CF206	Very smooth, durable release
CF205, CF310	Industrial grade with good release
CF205 AS	Smooth static-dissipative version

## CASE STUDY

### LOWER SPOT DEFECTS ON RELEASE MATERIALS.... REDUCED DEFECT RATES OF FPCB

**Super smooth surface. Longer lasting release. Improved production yield.**

A new partner specializing in single layer FPCB production reported an historical high percentage of defect rates which was significantly impacting the overall production yield and the plant's manufacturing targets.

They made significant changes. They trialed the newly developed SR010-2 X release material and selected CHEMFAB® as a new supplier. After a trial period, they reviewed their reduced FPCB defect rates along with their quality inspection reports of incoming release materials. These reports showed a significant reduction of spot defects in incoming CHEMFAB® release materials. They also reported that the finishes were of higher quality and that the overall batch-to-batch consistency has improved.

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